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Title: Strongly-coupled Physics Through a Conformal Field Theory Lens (IC project w20_strongcftlens)

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Strongly-coupled Physics Through a Conformal Field Theory Lens

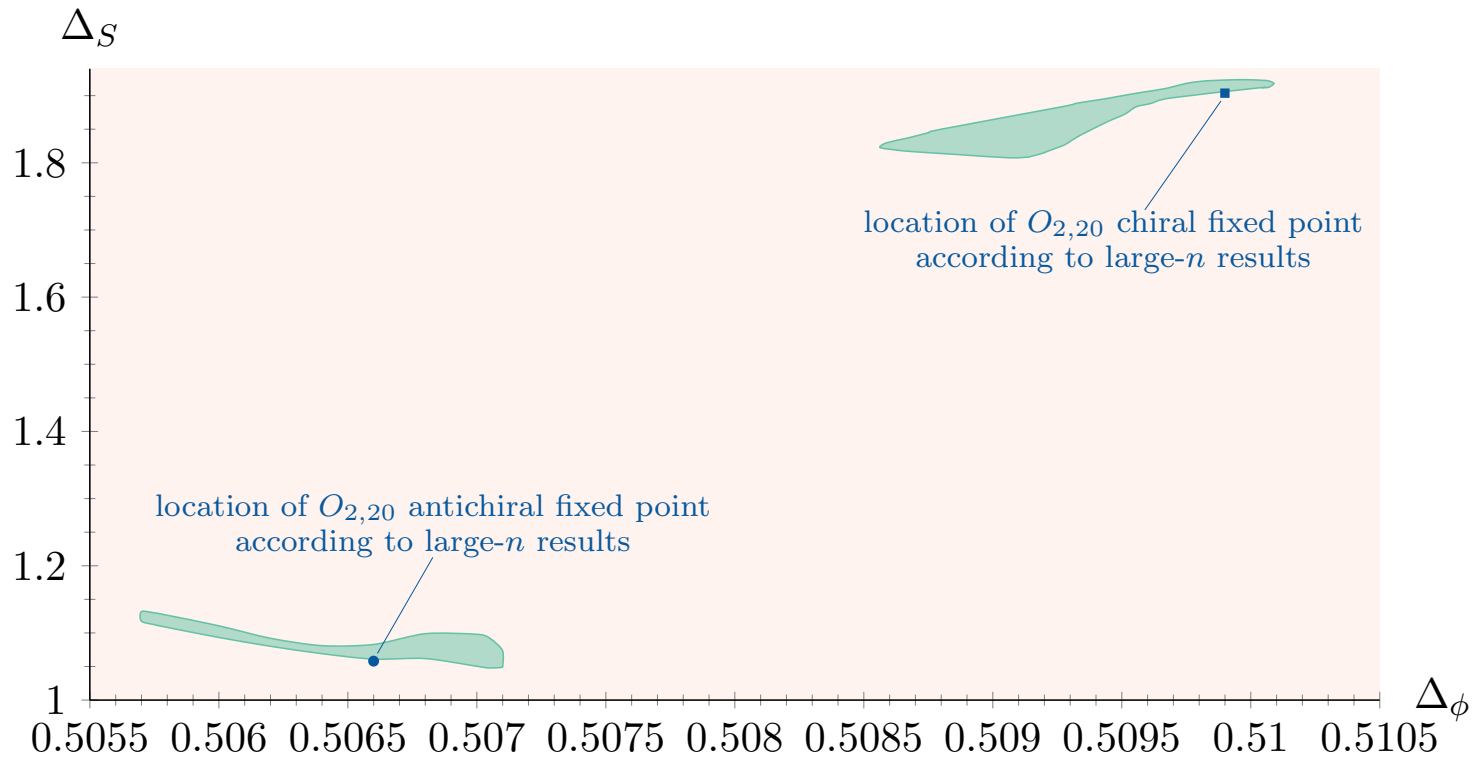
w20_strongcftlens

Progress Report 1

Andreas Stergiou

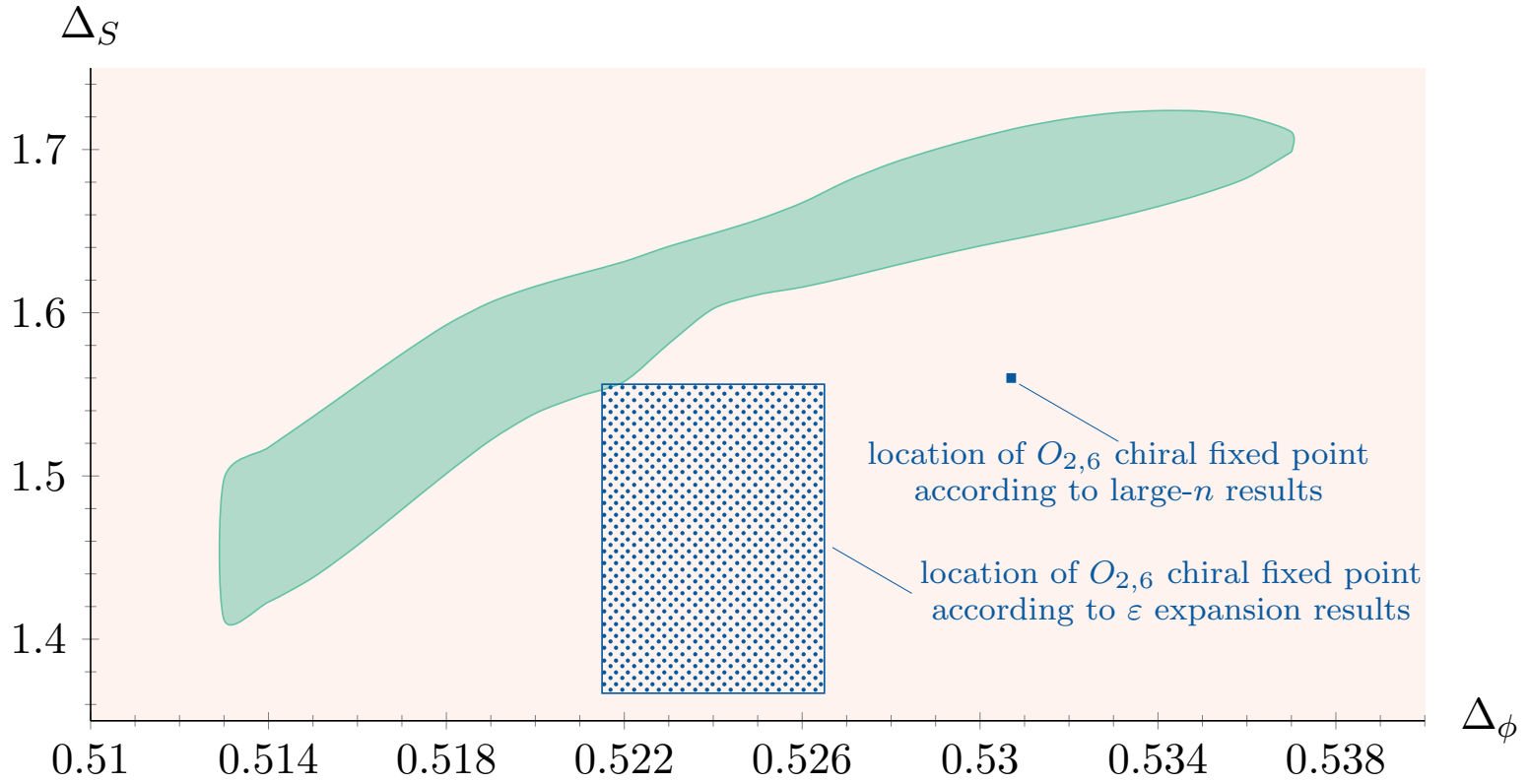
LA-UR-21-xxxxx

O(2)×O(20) chiral and antichiral islands



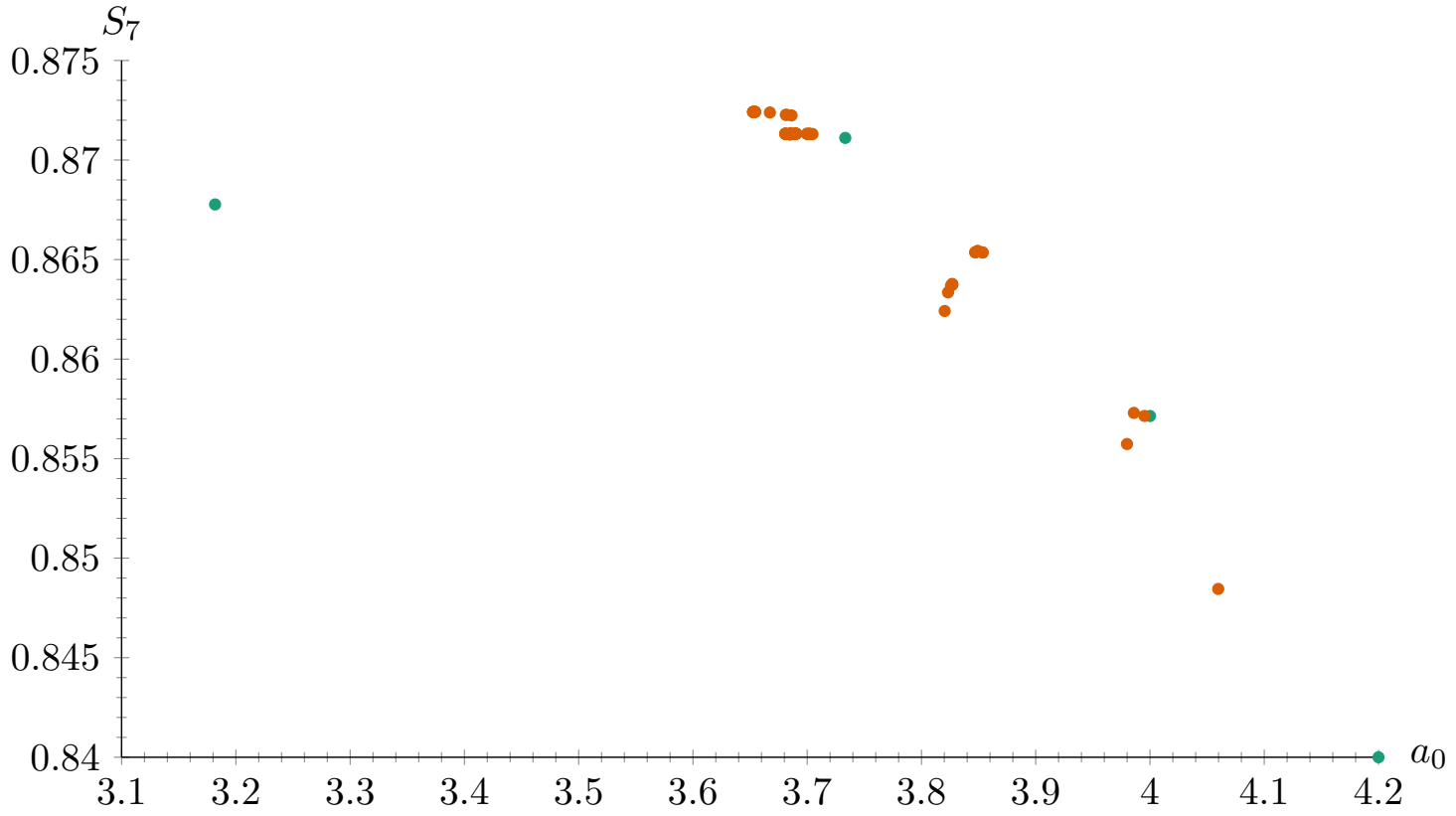
Allowed region (in green) for the O(2)×O(20) chiral and antichiral fixed points according to bootstrap computations run on Badger, as well as their location according to older methods. (Fig. 7 of arXiv:2004.14388.)

O(2)×O(6) chiral island



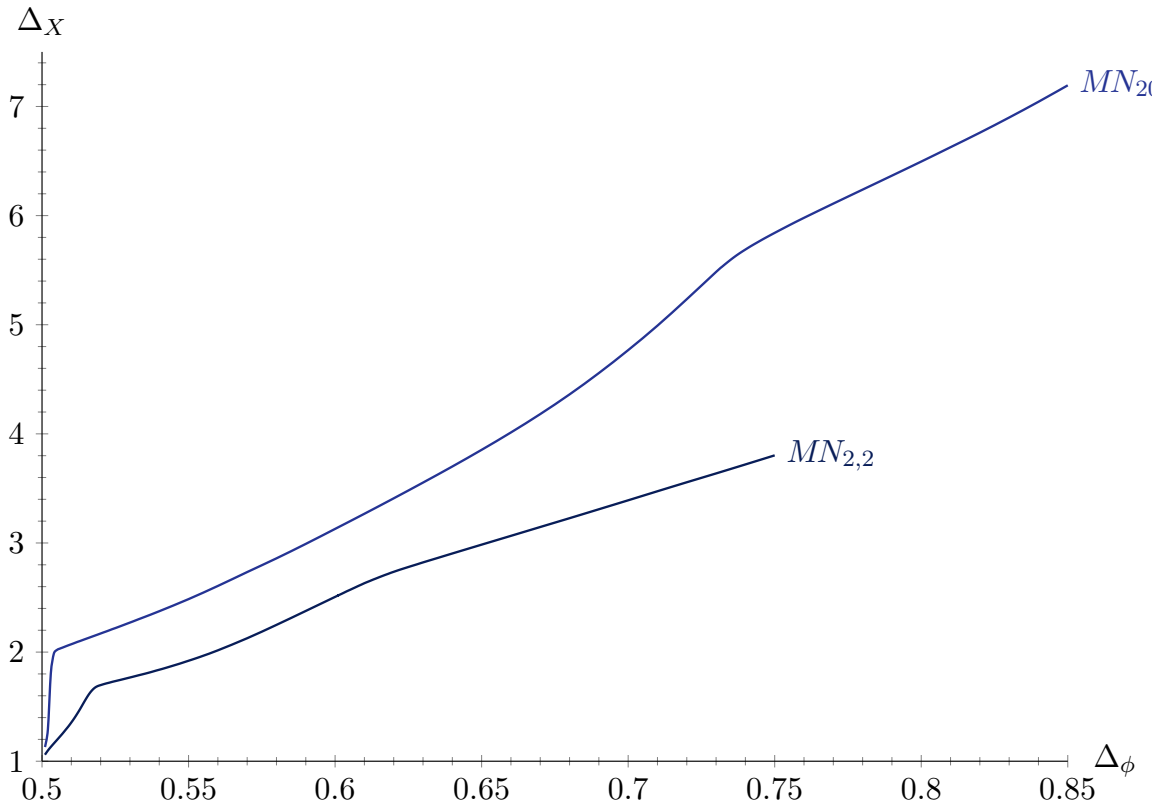
Allowed region (in green) for the O(2)×O(6) chiral fixed point according to bootstrap computations run on Badger, as well as its location according to older methods. (Fig. 9 of arXiv:2004.14388.)

Fixed points in the ε expansion



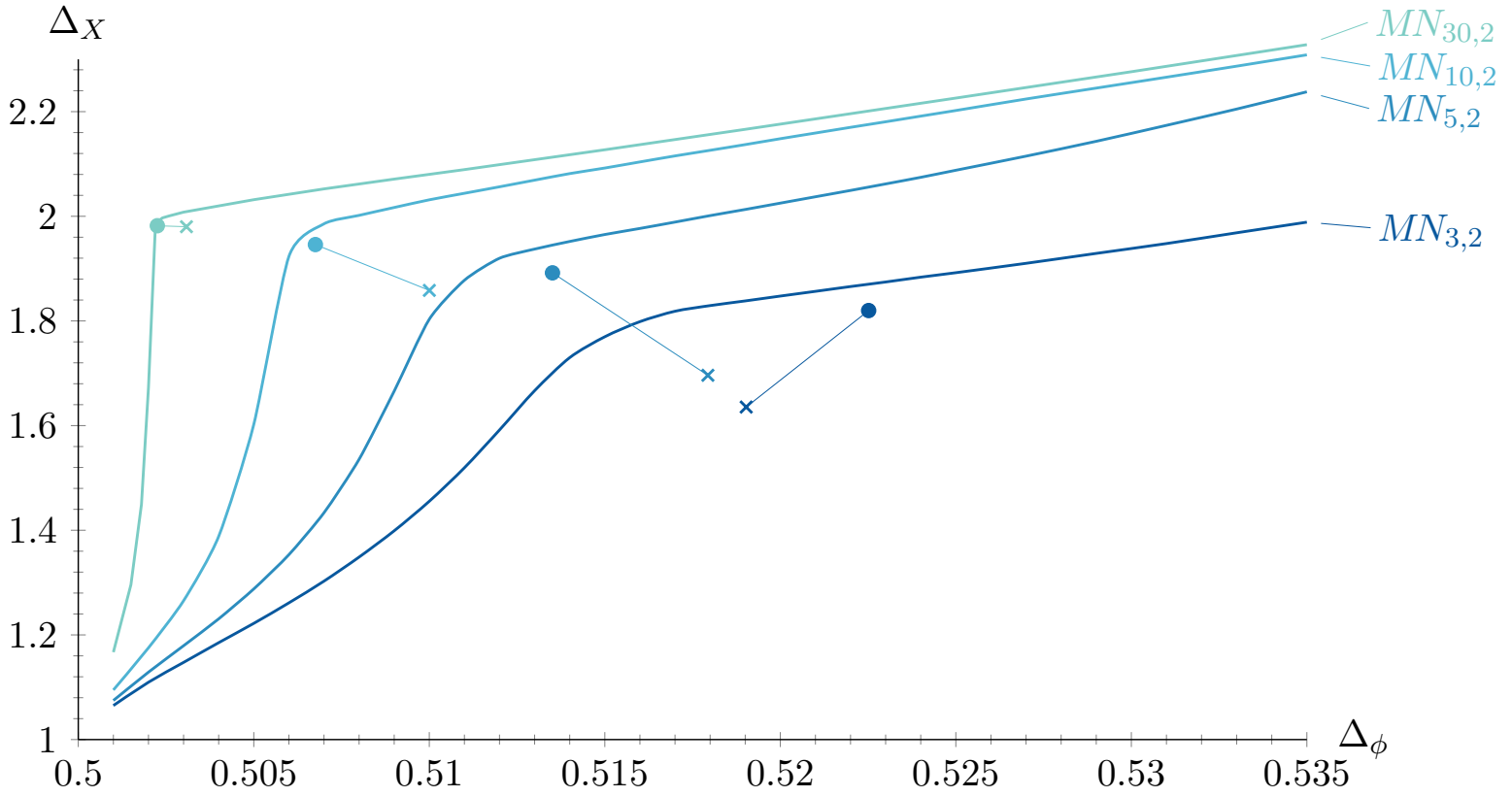
Locations of fixed points obtained with nonlinear constrained optimization on Badger (green:rational, orange: irrational). Most of these fixed points are new. (Fig. 4 of arXiv:2010.15915.)

Pairs of kinks in MN theories



Kinks in bootstrap bounds according to bootstrap computations run on Badger, marking the existence of two fixed points for each theory (one known, the other new). (Fig. 1 of arXiv:2101.08788.)

Kinks in MN theories



Kinks in bootstrap bounds signifying the existence of fixed points according to bootstrap computations run on Badger, as well as their locations according to older methods. (Fig. 2 of arXiv:2101.08788.)